

Triangle Brick

6523 NC Highway 55 Durham, NC 27713 Durham: (919) 544-1796 Raleigh: (919) 828-2070

Toll Free: 800-672-8547 Fax: 800-849-0612

July 25, 2014

Michael Scott North Carolina Department of Environment and Natural Resources Division of Waster Management 1646 Mail Service Center Raleigh, NC 27699-1646 JUL **2 9** 2014

Mr. Scott,

Enclosed please find, Triangle Brick Company's Merry Oaks facilities Initial Notification & BMP Plan for your Re-approval.

If you have questions please feel free to contact me.

Sincerely,

Ricky Merritt

Director of Manufacturing Operations

919-624-9176

rickym@trianglebrick.com



North Carolina Department of Environment and Natural Resources

Beverly Eaves Perdue Governor Division of Waste Management
Dexter R. Matthews
Director

Dee Freeman Secretary

June 2, 2009

Mr. Ricky Merritt Triangle Brick Company 6523 NC Highway 55 Durham, North Carolina 27713

Re: Land Application Site Approval (LASA-19-01)

Dear Mr. Merritt:

The Division of Waste Management has reviewed your request for a continued approval to land apply a limestone by-product from Triangle Brick Company in Merry Oaks, NC. Based on the analysis submitted, the pollutant levels tested for are below the maximum limits for land application. Waste analyses, conducted by the NC Department of Agriculture, indicate the limestone would have agronomic benefit as a means to neutralize soil acidity.

Your request is considered approved with the following conditions.

- (1) The limestone by-product must be land applied at agronomic rates, which are to be calculated based on the results of soil tests taken since the last time lime was applied and where the limestone by-product is to be land applied. Soil test results shall justify the continued use of the limestone by-product as a liming agent.
- (2) Site specific best management practices (BMP) plans shall be prepared for each site where the limestone by-product is to be land applied. The BMP shall contain the information required in the Best Management Practices submitted by Triangle Brick Company and shall be prepared by a qualified individual.
- (3) Land application must occur in such a manner that there will be no wind drift off the property being land applied upon and applications shall be maintained at least 100 feet from any residence.
- (4) The Annual and Cumulative Pollutant metal loading rates in 40 CFR 503.13 shall not be exceeded.
- (5) Records shall be maintained by the Triangle Brick Company as long as necessary to assure the Cumulative Pollutant Loading Rates are not exceeded.
- (6) Copies of all BMP plans for land application sites must be made available upon request to representatives of the Division of Waste Management.
- (7) It is the responsibility of Triangle Brick Company to obtain landowner permission prior to the limestone by-product being used as a liming agent.
- (8) Marketing of this material should meet applicable NCDA requirements.



- (9) An annual report, July 1 through June 31, shall be submitted, by August 1 of each year, including:
 - (a) Quarterly analysis of the limestone by-product

(b) The amount (tons) distributed, and

(c) The amount applied to each farm or site

(10) Metal analysis shall be conducted of the materials involved in generation of this material to try to determine the source of the lead in the liming agent.

(11) This approval shall expire June 2, 2014.

Mr. Brad Bailey, Environmental Senior Specialist, from the Raleigh Central Office will primarily be responsible for site inspections. Mr. Bailey can be reached at 919-508-8565.

If you have any questions in this matter please contact me at 919-508-8508.

Sincerely

Michael E. Scott, Branch Head

Composting and Land Application Branch

cc: Brad Bailey, Environmental Senior Specialist, Raleigh Central Office David Dycus, NCDA

h:cla/landapp/liming agents/Triangle Brick-Merry Oaks_approval_06-09

Initial Notification and BMP Plan

GENERATOR:

Triangle Brick Company

LOCATION:

294 King Road

Moncure, NC 27559

Triangle Brick has several plants in North Carolina. This plan is for the one located at the Merry Oaks exit off US Highway 1 in Chatham county.

CONTACT PERSON:

Ricky Merritt, Triangle Brick

TELEPHONE:

919-387-9258

BMP plan prepared by: David Dycus

Regional Agronomist, NCDA & CS

250 Dycus Road Sanford NC 27330 919-776-9338

david.dycus@ncmail.net

Analysis of By-Product: See Waste report number 8643 for Calcium Carbonate Equivalents and Agricultural Liming

Equivalents, attached

Estimated Limestone By-Product Production

Amount of limestone produced per year **276 Tons** Amount of limestone beneficially used 276 Tons Average Agricultural Lime Equivalents 1.2 Ton Annual Acres Required 230 Acres

Certification for Triangle Brick

I (we) certify that the liming material generated from this plant will be applied at agronomic rates based off of quarterly agricultural liming equivalent sample analysis, annual soil test analysis and in accordance with the "Procedures for the beneficial use of wood ash as a soil amendment" document.

9/3/2008

Ricky Merritt,

Triangle Brick Company
Director of Manufacturing

rickym@trianglebrick.com

919-387-9258

GENERAL NARRATIVE

Triangle Brick has started generating a by-product that is very uniform, has an excellent agricultural liming equivalent, contains no harmful contaminants, and is ideally suited to be land applied. This land application will benefit the soil as a basic soil amendment supplying calcium. This product is perfectly suited to be land applied and by doing so will help the soil, the landowner and not tie up increasingly valuable landfill space.

The by-product is derived from limestone chunks brought in from Tennessee to be used by Triangle Brick. These chunks are placed in their air-stacks and tumbled to remove fluorine for air quality purposes. During this tumbling process the chunks are basically pulverized causing the fine particles to settle and become the by-product. Triangle Brick is improving air quality and also generating a material they are going to give to a local farmer to be land applied for its liming potential. As you would expect it has nearly the same liming equivalent as ground limestone. Also there are no problems with metals or other nutrients and it is a great source of calcium.

Tony Ragan, a cattle and row-crop farmer near the Merry Oaks site, has agreed to land apply the material for its liming ability. Triangle Brick has agreed to give the material to Mr. Ragan for free. Mr. Ragan is an ideal partner with Triangle Brick as his land is near-by and he has land available for application year round. In addition, his farm headquarters are well centered within his farm therefor he only needs one place for temporary storage of the material. Enclosed are maps with soil information and a description of the State soil series. It is referred to as the Ragan site and the GPS co-ordinates are 35.1517 by 79.0441. This site contains well established grass sod to reduce or eliminate any movement of material and are over 600 feet from any perennial streams or groundwater wells. It has previously been used to stockpile lime prior to spreading on the farm. This storage site will only need to be used to store the product for short periods of time as Triangle Brick has storage available at their manufacturing plant.

The following Best Management Practices will be utilized:

Soil samples will be taken annually.

2. The liming material will be analyzed quarterly to determine ALE.

3. The material will not be applied under wet soil conditions. (Tire prints will not mark the soil in excess of 3 inches.

4. The material can be applied in all months, but primarily in the fall and spring.

5. It will be applied in the fall on row crop land after corn and soybeans have been harvested.

6. It will be applied in the spring on pasture land.

- 7. It will be applied at proper agronomic rates based off soil and ALE waste analysis.
- 8. Tony has been and will continue to utilize permanent no-til production practices with no soil disturbance.
- 9. Land receiving the material will maintain 80% ground cover or greater.

10. All applications will be broadcast applied by Mr. Ragan.

- 11. All material will be applied utilizing sound agricultural practices to include; not broadcasting it into ditches, streams, creeks or ponds and leaving a buffer around all property lines.
- 12. Due to the long term no-til practice, there are no erodable conditions on the farm.
- 13. All soil and by-product agricultural liming equivalent testing will be conducted by the Agronomic Division of the North Carolina Department of Agriculture or other certified lab.



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Certification for Triangle Brick

I (we) certify that the liming material generated from this plant will be applied at agronomic rates based off of quarterly agricultural liming equivalent sample analysis, annual soil test analysis and in accordance with the "Procedures for the beneficial use of wood ash as a soil amendment" document.

Ricky Merritt,

Triangle Brick Company

Director of Manufacturing Operations

rickym@trianglebrick.com

919-387-9258



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Waste Report

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Presentate Comment

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These year for uning agreement; services to manager markets and appropriat construences of quality.

Store Tracks; Commissions of Agriculture.

Permeability is moderately rapid, and the available water capacity is low to moderate. This soil is very strongly acid or strongly acid except where lime has been added. Depth to bedrock ranges from 20 to 40 inches.

Included with this soil in mapping are small areas of Mayodan and Creedmoor soils. Mayodan soils generally are higher on the landscape than Pinkston soil, and Creedmoor soils typically are on benches. Also included are a few small areas of soils that have bedrock at a depth of less than 20 inches.

This Pinkston soil is mainly used as woodland. It is used as pasture in some areas.

This soil is poorly suited to use as cropland. Steepness of slope and depth to bedrock are the main limitations, and erosion is a hazard. This soil is poorly suited to hay and pasture forage.

The dominant trees on this soil are northern red oak, yellow poplar, white oak, southern red oak, hickory, maple, American beech, Virginia pine, shortleaf pine, and loblolly pine. The understory includes flowering dogwood, eastern redcedar, American holly, redbud, sassafras, and black cherry. Steepness of slope and depth to bedrock are the main limitations for woodland use.

This soil is poorly suited to urban and recreational uses because of steepness of slope and depth to adrock.

This Pinkston soil is in capability subclass VIIe. The woodland ordination symbol is 4d.

Pt—Pits, quarry. Stone quarries are areas where the original soil material, gravel, or rock has been removed. This unit is composed of two stone quarries in Lee County. One is northeast of Lemon Springs (fig. 5), and the other is adjacent to the Deep River northwest of U.S. Highway 1, near the Chatham County line. Both quarries are open excavations up to 100 feet or more in depth. Plants do not grow in the excavations, but pine trees and native grasses have become established on the exposed soil around the top.

This map unit is not assigned to a capability subclass and does not have a woodland ordination symbol.

Ro—Roanoke sitt loam. This soil is nearly level and poorly drained. It is along drainageways and in slight depressions on stream terraces. The areas of this soil are long and narrow and range from 5 to 80 acres.

Typically, the surface layer is dark gray silt loam 4 inches thick. The subsoil extends to a depth of 43 inches. It is light brownish gray silty clay loam in the upper part, light brownish gray silty clay in the middle part, and gray silty clay in the lower part. The underlying material to a depth of 65 inches is light gray silty clay loam.

armeability is slow, and the shrink-swell potential is jerate. This soil is very strongly acid or strongly acid except where lime has been added. The seasonal high

water table is at or near the surface. This soil is frequently flooded for brief periods.

Included with this soil in mapping are a few areas of Tetotum soils that are moderately well drained. These soils are in slightly higher areas than the Roanoke soil.

This Roanoke soil is mainly used as woodland. In a few small areas, it is used as pasture.

If this soil is drained and protected from flooding, it is well suited to corn, soybeans, and small grains. Wetness is the main limitation for cropland use, and flooding is a hazard. Conservation tillage, cover crops, and crop residue management reduce runoff and help control erosion during flooding. This soil is well suited to pasture forage.

The dominant trees on this soil are southern red oak, hickory, sweetgum, loblolly pine, water oak, and yellow poplar. The understory includes American holly, sourwood, giant cane, and greenbrier.

This soil is poorly suited to most urban and recreational uses. Wetness and slow permeability are the main limitations, and flooding is a hazard. Low strength is a limitation for local roads and streets.

This Roanoke soil is in capability subclass Vw. The woodland ordination symbol is 2w.

StA—State fine sandy loam, 0 to 3 percent slopes. This soil is well drained and is on slightly convex ridges on stream terraces. The areas of this soil are oblong and range from 5 to 30 acres.

Typically, the surface layer is light yellowish brown fine sandy loam 5 inches thick. The subsurface layer to a depth of 8 inches is brownish yellow fine sandy loam. The subsoil to a depth of 49 inches is sandy clay loam. The upper part is strong brown; the middle part is mottled strong brown, brownish yellow, yellowish red, and red; and the lower part is brownish yellow. The underlying material to a depth of 72 inches is variegated light gray, yellowish red, brownish yellow, and red sandy loam and sand.

Permeability is moderate, and the available water capacity is high. This soil is very strongly acid or strongly acid except where lime has been added. The seasonal high water table is 4 to 6 feet below the surface.

Included with this soil in mapping are small areas of Wickham and Tetotum soils. Wickham soils are reddish and are in slightly higher areas than the State soil. Tetotum soils are in lower areas.

This soil is mainly used as cropland. In some areas, it is used for hay and pasture.

This soil is well suited to corn, tobacco, soybeans, and small grains. Conservation tillage, cover crops, and crop residue management reduce runoff and help control erosion.

The dominant trees on this soil are loblolly pine, Virginia pine, Southern red oak, hickory, yellow poplar, and black walnut. The understory includes sourwood,

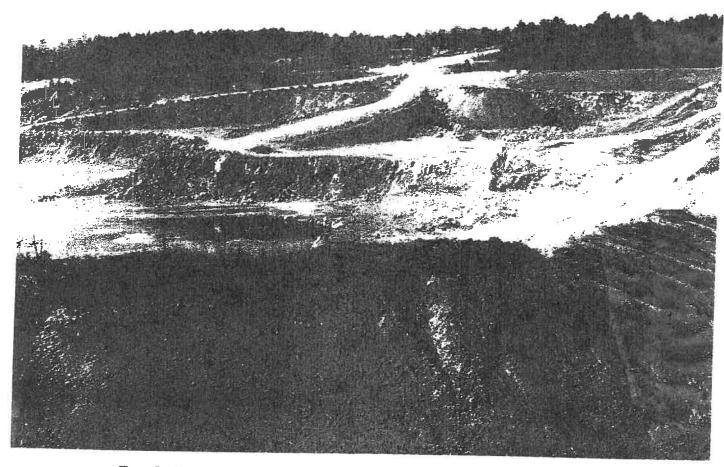


Figure 5.—The soil is being removed to expose bedrock in this stone quarry at Lemon Springs.

American holly, flowering dogwood, greenbrier, and blueberry.

This soil is suited or poorly suited to most urban uses because of wetness and low strength. It is well suited to recreational uses.

This State soil is in capability class I. The woodland ordination symbol is 1o.

TaB—Tatum silt loam, 2 to 8 percent slopes. This soil is well drained and is on Piedmont uplands on broad ridges that are dissected by intermittent drainageways. The areas of this soil are oblong and irregular in shape and range from 5 to 200 acres.

Typically, the surface layer is brown silt loam 8 inches thick. The subsoil extends to a depth of 50 inches. It is red silty clay loam. The underlying material to a depth of

60 inches is mottled red and brownish yellow saprolite that crushes to sit loam.

Permeability is moderate, and the available water capacity is moderate. Shrink-swell potential is moderate. This soil is very strongly acid or strongly acid except where lime has been added. Soft bedrock is at a depth of 40 to 60 inches.

Included with this soil in mapping are small areas of Nason soils. These soils are intermingled with the Tatum soil throughout the map unit.

This Tatum soil is mainly used as woodland. In some areas, it is used for hay, pasture, crops, or urban development.

This soil is well suited to corn, soybeans, pasture, hay, small grains, and horticultural crops. Surface runoff is the main limitation, and erosion is a hazard. Conservation



Material Safety Data Sheet Limestone

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:

Limestone

Synonym/s:

High Calcium Limestone; Hi-Cal Limestone; Calcium Carbonate; Treated Limestone

Chemical Name:

Calcium Carbonate

Chemical Formula:

CaCO₃

Product Use/s:

Mineral Filler

Manufacturer:

US Operations: Lhoist North America 3700 Hulen St. Fort Worth, TX 76107

Canadian Operations:

Lhoist North America of Canada, Inc.

20303-102B Ave. Langley, BC V1M 3H1

817-732-8164

604-888-4333

Emergency Phone:

Chemtrec 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

Emergency Overview:

Limestone is an odorless white, grayish-white or tan material that ranges from pebble to a granular powder. Contact can cause irritation to eyes, skin, respiratory system, and

gastrointestinal tract. Limestone reacts with acid to form CO2.

Potential Health Effects

Contact can cause irritation of eyes. Eyes:

Skin: Contact can cause mild irritation of skin.

Ingestion: In large amounts, this material may cause gastrointestinal irritation or blockage. Inhalation:

This product can cause mild irritation of the respiratory system. Long-term exposure may cause permanent damage. Limestone is not listed by MSHA, OSHA, or IARC as a carcinogen. However, this product may contain trace amounts of crystalline silica in the form

of quartz or crystobalite, which has been classified by IARC as a Group I carcinogen to humans when inhaled. Inhalation of silica can also cause a chronic lung disorder, silicosis.

Potential Environmental

None

Effects:

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Chemical Formula	Common Name	Conc. (%)	CAS
Calcium Carbonate	CaCO ₃	Limestone	> 95	1317-65-3
Crystalline Silica	SiO ₂	Quartz	< 2	14808-60-7

(Crystalline Silica is reported as total silica and not just the respirable fraction)

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush eyes with generous amounts of water or eye wash solution if water is

> unavailable. Pull back eyelid while flushing to ensure that all limestone dust has been washed out. Seek medical attention promptly if the initial flushing of the eyes does not remove the

irritant. Do not rub eyes.

Brush off or remove as much dry limestone as possible. Wash exposed area with large Skin:

amounts of water.

Inhalation: Move victim to fresh air. Seek medical attention.

Ingestion: Do not induce vomiting. Seek medical attention immediately. Never give anything by mouth

unless instructed to do so by medical personnel.



Material Safety Data Sheet Limestone

Contact may aggravate disorders of the eyes, skin, gastrointestinal tract, and respiratory

Medical Conditions

system.

Aggravated by Exposure:

SECTION 5: FIREFIGHTING MEASURES

Fire Hazards: Limestone is not combustible or flammable. This product is not considered to be an

explosion hazard, although reaction with incompatible materials, such as acids, may rupture

containers.

Suitable Extinguishing

Media:

N/A

Fire

N/A

Fighting Instructions:

Hazardous

Not applicable

Combustion Products:

SECTION 6: ACCIDENTAL RELEASE MEASURES

Use proper protective equipment. Spill / Leak Procedures:

Small Spills: Use dry methods to collect spilled materials. Avoid generating dust.

Residue on surfaces may be water washed.

Use dry methods to collect spilled materials. Avoid generating dust. Large Spills:

Residue on surfaces may be water washed.

Containment: Minimize dust generation and prevent bulk release to sewers or waterways.

Normal housekeeping can be applied. Clean-up:

SECTION 7: HANDLING AND STORAGE

Use routine safety measures to keep dust from coming into contact with eyes and Handling:

avoid respiration.

Store in a cool, dry and well-ventilated location. Storage:

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredient	OSHA PEL, TWA 8/40h (mg/m3)	ACGIH TLV, TWA 8/40h (mg/m3)	NIOSH REL, TWA 8/40h (mg/m3)	NIOSH IDLH (mg/m3)
Calcium Carbonate	15 (total dust)	10	10 (total dust)	n/a
	5 (respirable)	10	5 (respirable)	II/a
Crystalline Silica	10/(SiO2% +	0.025	0.05	50
	2) (respirable)	(respirable)	(respirable)	50

Provide ventilation adequate to maintain PELs. **Engineering Controls:**

Respiratory Protection: Use NIOSH/MSHA approved respirators if airborne concentration exceeds PELs.

Use appropriate gloves and footwear to prevent skin contact and the potential for irritation. Skin Protection:

Clothing should fully cover arms and legs.

Eye Protection: Use safety glasses with side shields or safety goggles.

Other: Eye wash fountain/stations and emergency showers should be available.



Material Safety Data Sheet Limestone

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES Physical State: Solid Appearance: White, grayish-white or tan Odor: Odorless lumps or powder Melting Point (°C/°F): Boiling Point (°C/°F): n/a n/a 2.6 - 2.9 g/cc Specific Gravity Evaporation Rate: n/a Vapor Density: n/a Vapor Pressure (mm Hg): n/a pH (25°C/77°F): 8 - 9 Solubility in Water: Not readily soluble in water.

SECTION 10: STABILITY AND REACTIVITY

Stability:

Chemically stable, but reacts vigorously with acids to form CO₂. Ignites on contact with

Fluorine.

Hazardous Decomposition/ Limestone decomposes at 950°C / 1742°F to produce calcium oxide and CO2.

Products:

Hazardous Polymerization: Does not occur

Incompatibility/

Conditions to Avoid:

Limestone should not be mixed or stored with the following materials, due to the potential

for vigorous reaction and release of heat:

Fluorine	Ammonium salts
Aluminum	Hydrogen
Magnesium	Acids

SECTION 11: TOXICOLOGICAL INFORMATION

An LD50 of 6450mg/kg (Rat, oral) has been identified for this product. Limestone is not listed by MSHA, OSHA, or IARC as a carcinogen, but this product may contain trace amounts of crystalline silica, which has been classified by IARC as carcinogenic to humans when inhaled in the form of quartz or crystobalite.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

None expected.

Environmental Fate:

This material shows no bioaccumulation effect or food chain concentration toxicity.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable federal, state, and local environmental regulations. If this product as supplied, and unmixed, becomes a waste, it will not meet the criteria of a hazardous waste as defined under the U.S. Resource Conservation and

Recovery Act (RCRA).

SECTION 14: TRANSPORTATION INFORMATION

Limestone is not classified as a hazardous material by US DOT and is not regulated by the Transportation of Dangerous Goods (TDG) when shipped by any mode of transport.

SECTION 15: REGULATORY INFORMATION

U.S. EPA Regulations:

RCRA Hazardous Waste Number (40 CFR 261.33): not listed RCRA Hazardous Waste Classification (40 CFR 261): not classified

CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001;

CWA, Sec. 311(b)(4); CWA, Sec. 307(a), CAA, Sec. 112



Material Safety Data Sheet Limestone

CERCLA Reportable Quantity (RQ), not listed

SARA 311/312 Codes: not listed

SARA Toxic Chemical (40 CFR 372.65): not listed

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): not listed, Threshold

Planning Quantity (TPQ): not listed

All chemical ingredients are listed on the US EPA TSCA Inventory List.

OSHA/MSHA

Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): 5mg/M³ TWA-8

MSHA: not listed

OSHA Specifically Regulated Substance (29 CFR 1910): not listed

State Regulations:

Consult state and local authorities for guidance. Components found in this product may contain trace amounts of inherent naturally occurring elements (such as, but not limited to arsenic and cadmium) that may be regulated under California Proposition 65 and other

States regulations.

Canada:

WHMIS Classification: "D2A" Materials Causing Other Toxic Effects

Canada NDSL: Listed

SECTION 16: OTHER INFORMATION

Prepared By:

Lhoist North America, Technical Services

Date Prepared:

August 6, 2012

Revision:

2012-4



NFPA Hazard Class:

Health: 1

Flammability: 0 Instability: 0

Physical

HMIS Hazard Class:

Health: 1*

Flammability: 0 Hazard: 0

Specific Hazard: ALK

Abbreviations:

N/A IARC Not Available or Not Applicable International Agency for Research on Cancer

IATA International Air Transport Association

ACGIH

American Conference of Governmental Industrial Hygienists

TWA Time Weighted Average
PEL Permissible Exposure Limit
TLV Threshold Limit Value

REL Recommended Exposure Limit

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